

CLAIMS

1. Portable communication device (10) comprising:
a radio circuit (22) for feeding antenna elements,
5 at least one component (24, 26, 28; 30) which is mildly sensitive to external radio transmission, and
an antenna arrangement for sending and receiving radio traffic comprising
a first antenna element (18) located within and extending through a major
portion of the device, and
10 a second smaller antenna element (20) connected to the first antenna element,
wherein the radio circuit is connected between the two antenna elements and
said component is provided on a section of the antenna arrangement making
small contributions to the antenna currents in the antenna arrangement.
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2. Portable communication device according to claim 1, wherein the first antenna element extends along most of the width of the device.
3. Device according to claim 1 or 2, wherein the first antenna element has a flat
20 shape, preferably provided in a layer of the main circuit board of the device.
4. Portable communication device according to any previous claim, wherein the
second antenna element is in the form of an elongated body stretching
essentially along a side of the first antenna element.
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5. Portable communication device according to claim 4, wherein the first antenna element is joined with the second antenna element at a first end of said side, thereby providing a gap (d) between the first and second antenna elements, the length of which is essentially defined by the length of the side of the first
30 antenna element and the length of the second antenna element.
6. Portable communication device according to claim 5, wherein the radio circuit is connected between the first and second antenna element between the first and a second end at said side.
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7. Portable communication device according to any previous claim, wherein the component is unscreened.

8. Portable communication device according any previous claim, wherein the component is a further antenna (30) for a separate type of communication, preferably a positioning antenna for receiving position information, for instance via satellite.
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9. Portable communication device according to claim 8, wherein the component is placed orthogonally to the first antenna element so that the antenna currents of the component are orthogonal to the antenna currents on at least the first antenna element.
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10. Portable communication device according to claim 9, wherein the component is placed at an end of the first antenna element furthest from the second antenna element.
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11. Portable communication device according to claim 9, wherein the component is placed on the second antenna element.
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12. Portable communication device according to claim 11, wherein the component is placed on a part of the second antenna element that is perpendicular to the first antenna element.
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13. Portable communication device according to claim 11 or 12, wherein the second antenna element serves as ground plane for the component.
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14. Portable communication device according to any of claims 1 - 7, wherein the component is placed on the second antenna element.
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15. Device according to claim 14, wherein the first antenna element is provided in a layer of the main circuit board of the device and the leads to the component are provided in another layer and provided to the component via the connection between the first and second antenna elements.
16. Device according to any previous claim, wherein the radio circuit includes at least one tuning network for tuning the antenna to one or more frequency bands.
17. Device according to any previous claim, in which it is a cellular phone.